

Amendment
Serial No. 10/801,544
Attorney Docket No. 042187

REMARKS

Claims 1-11 were pending in the present application. Claims 1-3, 7 and 8 were rejected. Claims 1, 2 and 7 are herein amended. Claims 4-6 and 9-11 are herein cancelled without prejudice. Applicant thanks the Examiner for the courtesies extended in the telephone interview of September 7, 2007. Applicant's Statement of the Substance of the Interview is incorporated herein.

Applicant's Response to Claim Rejections under 35 U.S.C. §112

Claims 1-3, 7 and 8 were rejected under 35 U.S.C. §112, first paragraph, as being failing to comply with the written description requirement.

It is the position of the Office Action that the term "buffer chambers" was not used in the original disclosure, and was thus deemed to be new matter. Applicant's representative contacted the Examiner by telephone on September 7, 2007 to inquire as to whether the term "area" would be acceptable instead of "buffer chambers." Applicant noted that while the specification does not use the term "area," this is clearly illustrated in the Figures. The Examiner acknowledged that this would be an acceptable claim term. Accordingly, Applicants herein amend claims 1, 2 and 7 to recite first, second and third "areas" instead of "buffer chambers." Favorable reconsideration is respectfully requested.

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Claims 1-3 and 7 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

As discussed above, the Office Action was unclear as to the meaning of the term “buffer chamber.” The Office Action stated that if this were a “true chamber, which is closed on all sides,” then it is unclear how the biopolymers would pass through the filter into a second buffer chamber. The Office Action also inquires as to whether the partitioning is physical, or can be virtual, such as a zone or region delineated by a control device.

As noted above, Applicant’s representative discussed the invention with the Examiner by telephone on September 7, 2007. The Examiner appeared to appreciate that the present invention contemplates two or three areas having solutions, separated by a single physical partition. This partition can be a gel, pillar array, or porous filter.

The Examiner appeared to be of the position that amendment of “buffer chamber” to “area” would be sufficient to overcome the rejections based on written description and indefiniteness. Additionally, Applicant notes that in the present invention, the solution does not permeate below or to the side of the gel, and the solution is completely isolated by the gel. Favorable reconsideration is respectfully requested.

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Applicant's Response to Claim Rejections under 35 U.S.C. §102

Claims 1-3 are rejected under 35 U.S.C. §102(b) as being anticipated by Alam (U.S. Patent No. 5,635,045).

It is the position of the Office Action that Alam discloses the invention as claimed. Alam is directed at an apparatus for, and a method of, electroelution isolation of biomolecules and recovering biomolecules after elution. As illustrated in Figure 1, the system includes a reservoir tank 1 with a separating gel 3 on a horizontal platform 2. The reservoir 1 is filled with buffer 4. Biomolecules are loaded into wells formed in the separating gel 3. Column 5, lines 16-18. The biomolecules are then migrated due to an electrophoretic force between the electrodes 5 and 6. When the biomolecules have migrated partially through the gel 3, a portion of the gel is cut out by a tubular enclosure 7. See Figure 6. This portion of the gel 3 is then placed in the buffer solution. The electrophoretic force causes the biomolecules to migrate until they are accumulated in the membrane 16 of the closure means 8. See Figure 9.

In response, Applicant respectfully submits that claims 1-3 distinguish over Alam at least in that they require that the target biopolymers are in the first area initially. On the other hand, in Alam, the biopolymers are initially in wells in the separating gel 3. This is equivalent to the biopolymers being initially in the “partition” of the claimed invention. Accordingly, Applicant respectfully submits that the claimed embodiments distinguish over Alam. Favorable reconsideration is respectfully requested.

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Applicant's Response to Claim Rejections under 35 U.S.C. §103

Claims 1-3 were rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Serwer et al. (U.S. Patent No. 5,009,759).

It is the position of the Office Action that Serwer discloses the invention as claimed. Notably, the Office Action states that “[f]or the purposes of examination, the term “solution” has been construed to encompass solution, regardless of viscosity. As such, the term has been construed as encompassing gels used in electrophoresis.” Applicant notes that the term “solution” is not recited in the present claims.

Serwer is directed at methods for producing agarose gels having variable pore sizes. In response, Applicant respectfully submits that the rejection based on Serwer is obviated by the claim amendments discussed above. Serwer is only directed at an agarose gel and a method of making an agarose gel.

The present invention is directed at a method of separating biopolymers. Serwer does not disclose or suggest a method in which a container is partitioned into two or three areas, and the target and other biopolymers are moved as recited, and then separated from the buffer. Furthermore, Serwer discloses that the biopolymers are introduced into the gel. On the other hand, claims 1-3 require that the biopolymers are introduced into a first area, then moved into the gel. Accordingly, Applicant respectfully submits that Serwer does not disclose or suggest the embodiments as claimed. Favorable reconsideration is respectfully requested.

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Claims 7 and 8 were rejected under 35 U.S.C. §103(a) as obvious over Alam in view of Straume et al. (U.S. Patent Application Publication No. 2006/0127942).

It is the position of the Office Action that Alam discloses the invention as claimed, with the exception of disclosing the use of magnetic beads. The Office Action relies on Straume to provide this teaching.

In response, Applicant respectfully submits that that, as discussed above, claims 7 and 8 require that the target biopolymers are in the first area initially. On the other hand, in Alam, the biopolymers are initially in wells in the separating gel 3. Applicant respectfully submits that Straume does not make up for the teachings which Alam lacks.

Straume is directed at a particle analysis assay for biomolecular quantification. In this assay, DNA probes are attached to two types of beads: magnetically responsive and magnetically non-responsive. The DNA probes then hybridize with target DNA. Next, the magnetically responsive beads are separated from the non-magnetically responsive beads. These magnetically responsive beads may be separated from non-magnetically responsive beads by electrophoresis. See paragraphs [0123]-[0126]. However, these beads must also be electrically charged. See paragraph [0123].

Furthermore, Straume only discloses injecting the beads into the buffer of a standard electrophoresis apparatus. This conflicts with the teaching of Alam, which discloses inserting the samples into wells. Furthermore, the combination of Alam and Straume contains no suggestion or disclosure of separating a container into three areas by a partition such as a gel. Rather, the combination of Alam and Straume only appears to disclose a partial separation of a

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container into two areas. Thus, Applicant respectfully submits that the combination of Alam and Straume does not disclose or suggest the invention as claimed. Favorable reconsideration is respectfully requested.

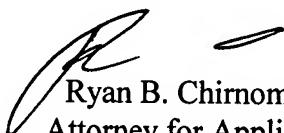
For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

If this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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